

BETTONVILLE et al
Appl. No. 10/561,796
April 3, 2008

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REMARKS/ARGUMENTS

Reconsideration of this application is requested. Claims 1-10, 12 and 13 are in the case.

I. THE 35 U.S.C. §101 REJECTION

Claim 11 stands rejected under 35 U.S.C. §101 as being in "use" format. In response, that claim has been cancelled without prejudice. Withdrawal of the outstanding 35 U.S.C. §101 rejection is now respectfully requested.

II. THE 35 U.S.C. §112, SECOND PARAGRAPH, REJECTION

Claim 11 stands rejected under 35 U.S.C. §112, second paragraph, as being in "use" format. As noted above, claim 11 has been cancelled without prejudice. Withdrawal of the 35 U.S.C. §112, second paragraph, rejection is now respectfully requested.

By way of clarification, claim 2 has been amended to specify that it is the polyethylene that is multimodal. Support appears in the originally filed application at the bottom of page 2. No new matter is entered.

III. THE OBVIOUSNESS REJECTION

Claims 1-11 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over the U.S. Patent 6,969,741 to Lustiger et al in view of U.S. Patent Publication 2004/0097650 to Ogawa and U.S. Patent Publication No. 2004/0191440 to Funaki et al. That rejection is respectfully traversed.

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As claimed, the invention provides a pressure pipe resin comprising from 90 to 99.9 wt%, based on the total weight of the resin, of a polyethylene, and from 0.1 to 10 wt%, based on the total weight of the blend, of an ionomer.

It is to be noted that the claimed invention is limited to a "pressure pipe". This is defined in the specification as "a pipe having a pressure rating of PE 80 and above" (page 1, lines 22-23). The PE 80 rating is explained in the description, and essentially defines any pipe which can withstand a hydrostatic pressure of at least 8MPa for 50 years at 20°C (page 2, lines 1-5). Such high pressure pipes are typically used for transporting gas, and PE 80 is a high level performance standard which is required in the industry.

Based on the above explanation, it will be appreciated that pipes fulfilling the above definition are completely different from, for example, hoses used in automobiles. The fact that a resin can be made into a "pipe", such as for use in automobiles, gives no information about whether it would be suitable as a "pressure pipe". In fact, it is extremely unlikely to be suitable, as pressure pipes are a highly specialized application.

The present invention is based on the discovery that the addition of ionomers to polyethylene used in pressure pipes improves the long-term creep performance of the polyethylene, and can therefore give pressure pipes with improved properties. This discovery is not suggested by the cited references when taken singly or in combination.

Lustiger relates primarily to rotomoulded articles such as containers (column 1, lines 18-21). The Examiner contends that "Lustiger discloses that an additive, such as an ionomer, may be added to the polyethylene blend...." (citing to column 8, lines 50-53). However, review of that portion of Lustiger (and indeed review of the entire patent)

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reveals that there is no mention of "ionomers". The cited portion of Lustiger reads as follows:

"Additives may be used as needed. Typical additives include one or more of antioxidants, anti-static agents, UV stabilizers, foaming agents, processing aids, nucleating agents, nanocomposites, fiber reinforcements and pigments. Illustrative pigments or colorants include titanium dioxide, carbon black, cobalt aluminum oxides such as cobalt blue, and chromium oxides such as chromium oxide green. Pigments such as ultramarine blue, which is a silicate. Phthalocyanine blue and iron oxide red will also be suitable. Such are typically used in amounts from 0 wt % to not more than about 15 wt %, based on the total weight of the first and second polyethylene components."

Lustiger makes no mention of "ionomers". Lustiger is therefore irrelevant to the presently claimed invention.

The above-noted deficiencies of Lustiger are not cured by Ogawa. Ogawa discloses a blend of a thermoplastic resin which can be a polyethylene with a hydrogenated vinyl aromatic compound-conjugated diene-based copolymer. While ionomers may be added as processing agents, the reference at para [0098] to a pipe is clearly not a "pressure pipe". Ogawa, therefore, provides no information or motivation with regard to the suitability of ionomers for addition to polyethylenes for fabricating pressure pipes.

Funaki is likewise irrelevant. Funaki is concerned with "hoses" which bear no relation to the pressure pipes as presently claimed. Funaki provides no motivation or information with regard to question of whether or not it would have been obvious to one of ordinary skill to add ionomers to polyethylene used for fabrication of pressure pipes.

Based on the above, it is clear that one of ordinary skill would not have been motivated to combine Lustiger, Ogawa and Funaki, since Lustiger contains no mention

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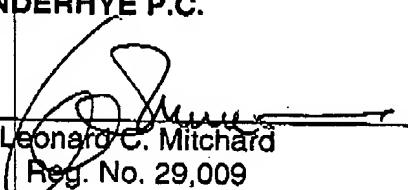
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of ionomers, and both Ogawa and Funaki do not relate to pressure pipes. Absent any such motivation, a *prima facie* case of obviousness has not been made out in this case. Reconsideration and withdrawal of the outstanding obviousness rejection are accordingly respectfully requested.

Favorable action is awaited.

Respectfully submitted,

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